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"What's wrong with my trees?"

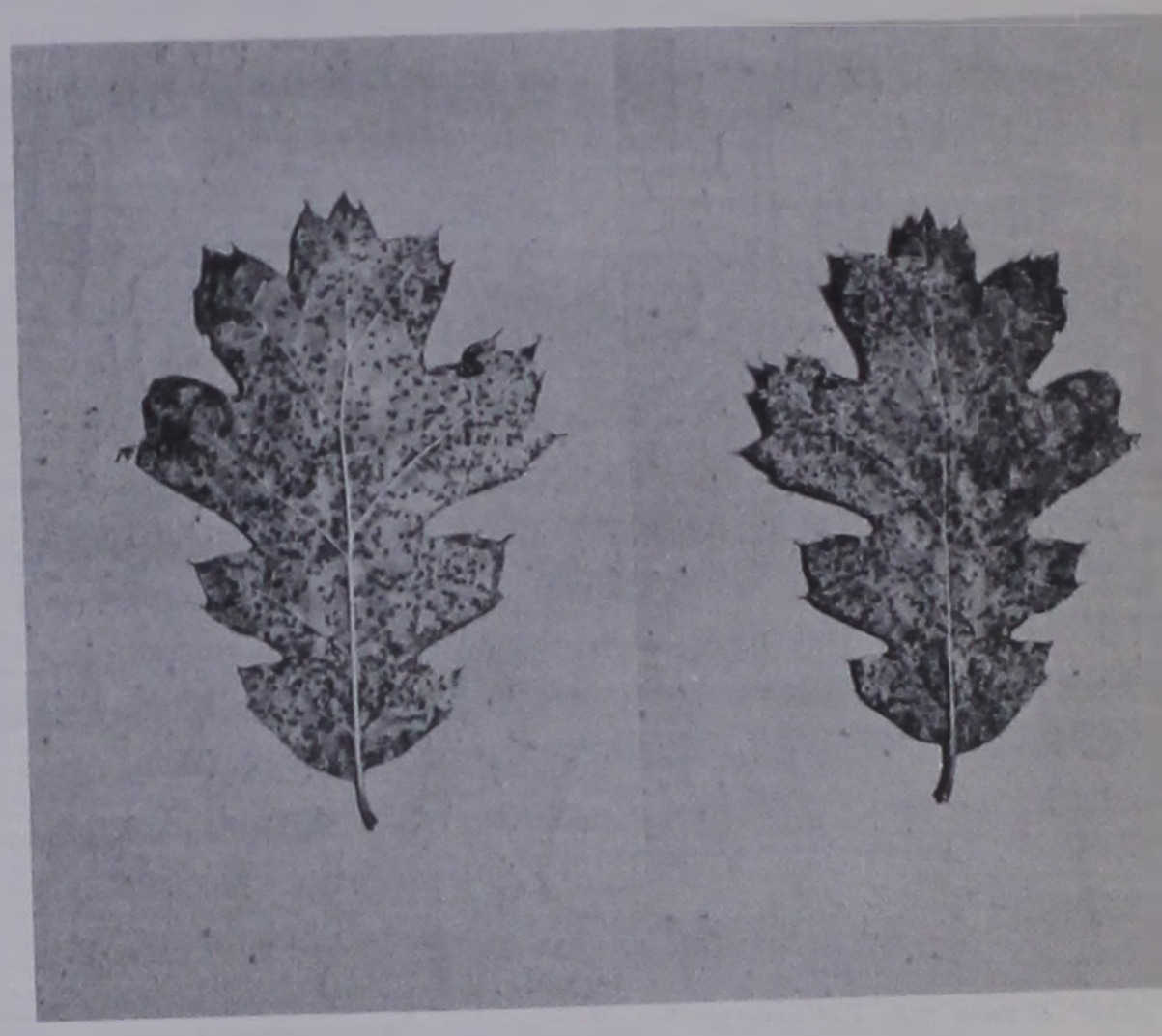
OAKS AND LAURELS IN CALIFORNIA HARD HIT BY LEAF DISEASES

"When it rains it spores" is an old saw among forest pathologists--and California had rain, lots of rain, in the winter and spring of 1958 and frequent summer thundershowers. As a result there have been several spectacular outbreaks of native leaf diseases. In this we see how rapidly endemic and minor forest diseases can and do become epidemic.

By late April, stands of California laurel in coastal counties were blighted by a combination of leaf fungi and bacteria. And by mid-August, black oak trees at middle elevations in the Sierra Nevada and Siskiyous were scorched brown by a leaf spot fungus. As one startled forester put it: "My 1-acre infection went over the hill."

Forest pathologists have been busy with reports, letters, and office and phone calls. Most of these inquiries start out with "What's wrong with my trees?" (Oak, laurel, poplar, or aspen.)

A partial answer about the significance of these outbreaks comes from surveys and research of Forest Service and University of California pathologists: For the evergreen California laurel a repetition of the 1958 conditions could result in accumulative damage to affected trees. For the deciduous oak, poplar, and aspen repeated defoliations can occur without resulting in death of the trees; nevertheless, some growth loss and lowered vigor can be expected.



OAK LEAF FUNGUS
(Septoria quercicola)

Symptoms: This fungus produces ang
lar dead spots visible on both sides of
affected leaves. General browning follow
then premature death and shedding of the
leaf. Except for occasional leaves at the
ends of branches, many oaks were bare b
the end of August this year.

Hosts: The chief oak species affected
has been black oak (Quercus kelloggii),
but several other oaks have been damage
to a lesser degree.

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The oak leaf spot fungus has been especially prevalent in the upper Sacramento, Trinity, and parts of the Feather River drainages. It has been noted in many other parts of central and southern California, including the Coast Range mountains in Monterey County.

In some areas another leaf disease has aided in the killing; this is oak anthracnose, caused by the summer stage of the fungus Gnomonia veneta. It produces large, light colored angular dead areas on attacked leaves. Ordinarily both diseases are minor on oaks in the State and attract little or no attention. Damage from disease should not be confused with defoliation from the California oak worm, which has also been quite active this year.

LEAF BLIGHT OF CALIFORNIA LAUREL

At least three different organisms are responsible for this diseased condition:

...a bacterium, Pseudomonas sp.
...two fungi, Kabatiella sp. and Gloeosporium sp.

Symptoms: The bacterium causes black, angular spots on the leaf; the fungi, large irregular brown spots. Symptoms on individual leaves range from black, angular spots a few millimeters across to large, coalescing brown spots covering most of the leaf. These leaf symptoms are often accompanied by dieback and blackening of the tips of branches. Severely infected trees turn brown as if the entire crown had been fire-killed.

Host: The disease seems to attack only California-laurel (Umbellularia californica).

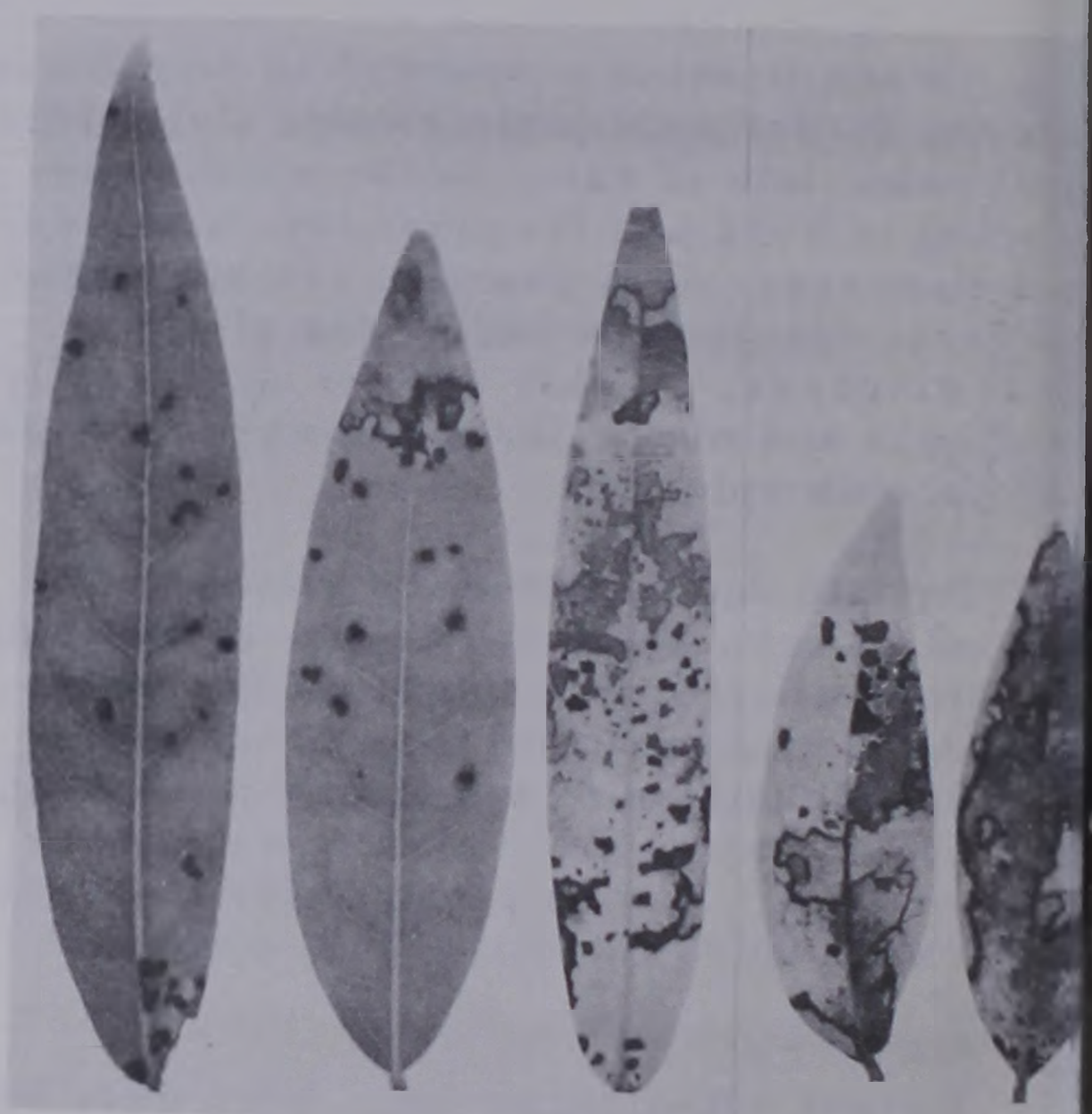
The disease organisms require prolonged periods of rain before they can build up to epidemic proportions. After the severe epidemic of this past winter, many trees produced a new crop of leaves and are making excellent recovery. Others have definitely suffered, and new foliage is sparse. These trees will incur severe damage if another epidemic should occur next winter. Pathologists of the University of California and the Forest Service are continuing their study of this group of organisms.

OTHER DISEASES ACTIVE

Other native leaf diseases that have developed in unusually severe form in mountain areas late this summer are:

...rusts (Melampsora spp.) on poplars and willows, and
...leaf blight from the fungus Marssonina populi on aspen.

The rusts have turned poplar and willow foliage a golden yellow in many districts in northern California. The aspen blight has caused the premature defoliation of aspen in many localities through the northern Sierra into Modoc County.



"What's wrong with my trees?" To answer, we can identify and name the responsible organisms. And we can suggest that protective spraying by fungicides be considered for individual trees or sma groups of trees in home gardens or parks At the present state of knowledge, control of these leaf diseases in forest areas is not practical or economic.

--Compiled from survey reports and research of the Forest Service and University of California pathologists.